

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First named inventor: Allan M. Hansen

Docket No. 03-0085

Serial No.10/699,265

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Examiner: Neil R. Kardos

Art Unit: 3623

Title: Methods and systems for Option-based product
definition

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Commissioner for Patents
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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Applicants request review of the final rejection mailed 4 January 2010 in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reasons stated in the attached sheets.

A petition for a ONE month extension of time is included. The final office action set a three month shortened statutory period for response. The extended period for response expires on May 4, 2010.

Respectfully submitted,

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ARGUMENTS

The final office action dated 4 January 2010 maintains the rejections of claims 1, 4-18 and 21-30 under 35 USC §103(a) as being unpatentable over Gupta U.S. Patent No. 6,405,308 in view of Cookson U.S. Publication No. 2004/0083239 and in further view of Official Notice. The '103 rejection is based on factual and legal deficiencies.

For many years, a product such as an aircraft has been defined in the form of engineering assemblies, and an end-item product usage of an assembly has been defined on an external bill of material or on one of the drawing sheets. Manufacturing has been required to disassemble the engineering-defined product and reconstruct the assembly according to available manufacturing processes. For a product as complex as a commercial aircraft, this is an enormous undertaking.

The present application describes a different approach, which improves upon the industry-old practice. It describes computer-based methods that generate product definitions. A product definition is a collection of components for different possible configurations of a product (e.g., an aircraft). Unlike the prior art, however, the product definition generated by the methods of claims 1 and 21 provides details as to how the components are defined, developed, and manufactured. For example, the product definition of claim 21 includes components and details for different configurations in an air vehicle family.

The product definition can be used to create a deliverable configuration. A product configuration specification is applied to the product definition. The product configuration specification is a filter composed of selected options. When applied to the product definition, a deliverable configuration is produced.

Base claim 1 recites a computer-based method of creating a product definition.

The method includes:

creating instantings of one or more usage-based product definition inputs, the inputs including components and engineering requirement callouts for the different configurations;

assessing applicability expressions, engineering requirements, and manufacturing availability to determine which instantings are available and valid for the different configurations; and

generating the product definition based on all instantings that are valid and available.

Base claim 21 recites a computer-based method of creating an air vehicle definition that describes a collection of components for different possible configurations of an air vehicle and also details how the components are defined, developed, and manufactured. The method includes:

instanting a usage-based fuselage definition input, the usage-based fuselage definition input including at least one of a fore body definition input, a mid body definition input, an aft body definition input, a wing definition input, a vertical tail definition input, and a horizontal tail definition input;

instanting a usage-based propulsion system definition input;

assessing an applicability expression, an engineering requirement, and a manufacturing availability expression associated with at least some of the definition inputs; and

generating the air vehicle definition based on the definition inputs, applicability expressions, engineering requirements, and manufacturing availabilities.

The methods of base claims 1 and 21 are not taught or suggested by Gupta or Cookson. Gupta discloses a system for interactively selecting features of a product based on availability and compatibility (Abstract). A maintenance system 202 maintains a parts catalog 204, parts relationships 206 and product definitions 208 (col. 5, lines 55-63). The product definition 208 is generated by population of a product with its component parts (col. 7, lines 26-35). Parts in a product definition 208 are related or classified. Part-to-product relationships include “included parts”, “required

choices” and optional parts” (col. 2, lines 25-26 and col. 6, lines 22-31). Part-to-part relationships include “requires,” “choice,” “includes,” “can’t work with,” etc. (col. 6, lines 22-31).

1. Legal error – ignoring claim language

Page 4 of the final office action takes the position that data (e.g., callouts) detailing how components are defined, developed and manufactured is given no patentable weight (read: ignored) because it is nonfunctional descriptive material that does not functionally affect the claimed process. This is legal error. There is no justification for ignoring claim language. MPEP 2143.03 states “All words in a claim must be considered in judging the patentability of that claim against the prior art.” In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

The final office action bases its position on case law that is not applicable to method claims. The cited case law is relevant to Patent Subject Matter Eligibility and Computer-Related Nonstatutory Subject Matter. See MPEP 2106 and 2106.01. For patent subject matter eligibility of method claims, see In re Bilski.

2. Lack of Evidence

a. Gupta doesn’t teach or suggest a product definition that describes a collection of components for different possible configurations of a product and also provides details as to how the components are defined, developed, and manufactured. Gupta’s product definition 208 is little more than a collection of parts 204 and relationships 206. Further, Gupta does not teach or suggest inputs to a product definition that include engineering requirement callouts or any other engineering requirements. Still further, Gupta does not teach or suggest assessing applicability expressions, engineering requirements and manufacturing availability as part of creating a product definition 208. All of Gupta’s assessments are performed during configuration of a desired product, not to create the product definition 208

b. The final office action cites Cookson for the teaching that a components catalog provides details about how components are developed and manufactured (manufacturing availability). However, Cookson does not describe that teaching.

Cookson, which is no more relevant than Gupta, describes a system for allowing a user to select and configure a product. For example, Cookson's system can be used to help an online customer find a pre-configured computer in a catalog or it can specify a computer having certain custom features. Cookson's product definition 208 is little more than a collection of assemblies and relationships (logic). Page 4 of the final office action cites certain passages from Cookson, but none of those passages teach or suggest a product catalog that provides data about how components are developed and manufactured. They only provide evidence as to how components are assembled.

c. The final office action provides no evidence of a reason for using engineering callouts in Gupta's system. Page 4 of the final office action acknowledges that the combination of Gupta and Cookson does not teach or suggest this feature. The final office action takes official notice of callouts in engineering drawings, but provides no evidence of using callouts in anything but engineering drawings. Thus far, the record contains no evidence that it would be obvious to use engineering callouts in a system that does not need them.

d. With respect to claim 21, the final office action provides no evidence whatsoever of creating product definitions for an air vehicle. The final office action does not even attempt to find prior art that describes claimed features such as instantiating a usage-based fuselage definition input; instantiating a usage-based propulsion system definition input; or assessing an applicability expression, an engineering requirement, and a manufacturing availability expression associated with at least some of the definition inputs .

3. Legal error – bald conclusions of obviousness

The '103 rejection does not comply with MPEP 2142 and the U.S. Supreme Court's holding in KSR International Co. v. Teleflex Inc., 82 USPQ2d 1385, 1395-97 (2007). According to the Supreme Court, "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness."

a. The final office action provides no articulated reasoning to provide engineering requirement callouts to an automobile customer using Gupta's system. Gupta and Cookson are silent about providing engineering drawings to car customers. The final office action takes official notice that engineering callouts are used in drawings. Page 12 of the final office action then concludes that it "would have been obvious ... to include well-known engineering callouts in the product definition of Gupta. This combination of known elements retains the functionality of the separate elements and produces a result that would be predictable."

However, the final office action provides no rational underpinnings or articulated reasoning about known methods or predictable results that would lead one skilled in the art to add engineering callouts to Gupta's system. It provides no articulated reasoning to provide engineering requirement callouts an automobile customer using Gupta's system. It simply cuts and pastes exemplary rationale (A) from MPEP 2143 and offers it as a conclusory statement of obviousness.

b. With respect to claim 21, the final office action provide a logical jump from a system that selects features of an automobile or a computer to a method of creating a product definition that includes provides details as to how components are defined, developed, and manufactured. Page 11 simply makes a conclusory statement of obviousness.

4. Legal error -101 rejection

Page 6 of the final office action alleges that base claims 1 and 21 do not positively recite the machine to which it is tied because only the preamble recites the use of a computer. There is no basis for the allegation. The body of claim 1 begins after the word "comprising" as does the body of claim 21. Base claim 1 recites "A method comprising using a computer to create a product definition...." Base claim 21 recites "A method comprising using a computer to create an air vehicle definition...." Thus, the body of each method claim is positively tied to a machine (computer) and therefore satisfies the machine-or transformation test set forth in In re Bilski.

Respectfully submitted,

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